WHAT IS CLAIMED IS:

1. A photolithography system comprising:

at least one lens for transmitting a predetermined radiation on a predetermined substrate; and

a fluid volume in contact with the lens on its first end and with the substrate on its second end,

wherein the fluid volume has a molar concentration of hydroxyl ions more than 10^{-7} mole per liter.

2. The system of claim 1 further comprising a radiation source providing an electromagnetic radiation with a wavelength of about 193 nm or less.

3. The system of claim 1 further comprising a radiation source providing an electromagnetic radiation with a wavelength of about 157 nm or less.

4. The system of claim 1 wherein the lens has a numerical aperture size between about 0.75 and 0.85.

5. The system of claim 1 wherein the lens has a numerical aperture size between about 0.85 and 1.05.

6. The system of claim 1 wherein the lens is made of silicon oxide.

7. The system of claim 1 wherein the lens is made of calcium fluoride.

8. The system of claim 1 wherein the fluid volume includes water.

9. The system of claim 1 wherein the fluid volume includes metal hydroxide.

10. The system of claim 1 wherein the molar concentration of hydroxyl ions is less than about 10^{-1} mole per liter.

11. The system of claim 1 wherein the molar concentration of hydroxyl ions is between about 10^{-3} mole and about 10^{-5} mole per liter.

12. The system of claim 1 wherein the molar concentration of hydroxyl ions is between about 10^{-5} mole and about 10^{-7} mole per liter.

13. The system of claim 1 wherein the substrate has a radiation sensitive material.

14. The system of claim 1 wherein the substrate is a semiconductor substrate material with a photoresist material formed thereon.

15. A photolithography system comprising:

a radiation source providing an electromagnetic radiation with a wavelength of about 193 nm or less;

at least one lens for transmitting a predetermined radiation from the radiation source on a predetermined substrate; and

a fluid volume in contact with the lens on its first end and with the substrate on its second end,

wherein the fluid volume has a molar concentration of hydroxyl ions between about 10^{-7} mole per liter and about 10^{-1} mole per liter.

16. The system of claim 15 wherein the lens has a numerical aperture size between about 0.75 and 0.85.

17. The system of claim 15 wherein the lens has a numerical aperture size between about 0.85 and 1.05.

18. The system of claim 15 wherein the lens is made of silicon oxide.

19. The system of claim 15 wherein the lens is made of calcium fluoride.

20. The system of claim 15 wherein the fluid volume includes de-ionized water.

21. The system of claim 15 wherein the molar concentration of hydroxyl ions is between about 10^{-3} mole per liter and about 10^{-5} mole per liter.

22. The system of claim 15 wherein the molar concentration of hydroxyl ions is between about 10^{-5} mole per liter and about 10^{-7} mole per liter.

23. The system of claim 15 wherein the substrate has a radiation sensitive material formed thereon.

24. The system of claim 15 wherein the substrate is a semiconductor substrate material with a photoresist material formed thereon.

25. The system of claim 15 wherein the fluid volume includes NaOH in an aqueous solution.

26. The system of claim 15 wherein the fluid volume includes CaOH in an aqueous solution.

27. The system of claim 15 wherein the fluid volume includes KOH in an aqueous solution.

28. A method for conducting immersion photolithography, the method comprising:

placing a substrate to be in contact with a fluid volume on its first end;

placing at least one lens in contact with the fluid volume on its second end; and

providing an electromagnetic radiation with a wavelength of about 193 nm or less for transmitting a predetermined radiation through the lens on a predetermined substrate,

wherein the fluid volume has a molar concentration of hydroxyl ions more than about 10^{-7} mole per liter.

29. The method of claim 28 wherein the fluid volume includes water.

30. The method of claim 28 wherein the lens has a numerical aperture size between about 0.75 and about 0.85.

31. The method of claim 28 wherein the molar concentration of hydroxyl ions is between about 10^{-3} mole per liter and about 10^{-5} mole per liter.

32. The method of claim 28 wherein the molar concentration of hydroxyl ions is between about 10^{-5} mole per liter and about 10^{-7} mole per liter.

33. The method of claim 28 wherein the substrate is a semiconductor substrate material with a photoresist material formed thereon.